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Virginia G. Ford

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Abstract title: (required)

Optomechanical Design of Nine Modular Cameras for the Mars Exploration Rovers



Principal Author: (required)*First (given) name (initials not acceptable) Last (family) name*

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USA**Presentation Type:***Indicate your preference; however, final placement is subject to chairs' discretion.*

Oral Presentation

Brief biography (required):*50 to 100 words (principal author only).*

Virginia G. Ford has worked at Jet Propulsion Laboratory since June, 1986 in Section 352, Mechanical Engineering. She is a Principal Engineer and Group Supervisor specializing in Space-Flight Science Instruments. Prior to working at Jet Propulsion Laboratory, she worked at Texas Instruments, Inc. from 1979 to 1986 as a Mechanical Engineer working on Night-Vision Military Equipment. She received a Bachelors of Science in Mechanical Engineering from the University of Florida in 1979 and a Bachelors of Arts in Physical Sciences from Harvard University in 1975.

Summary: (required)

250 words describing purpose, methods, results, new or breakthrough work to be presented, and conclusions of the work.

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The 2003 mission to Mars includes two rovers which will land on the Martian surface. Each rover carries 9 cameras of 4 different designs. This paper will discuss the optomechanical design of these cameras, including tolerances required, thermal issues, radiation shielding, planetary protection, detector mounting, electronics, the modularity achieved, and how the 9 different locations were accommodated on the very tight real estate of the rovers.

Keywords:

Up to 10 keywords noting the nature of the work.

cameras, refractive lenses, optomechanical, modularity

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